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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,703	06/29/2001	Reizo Maeda	010829	4945

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT PAPER NUMBER

1745

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/893,703

Applicant(s)

MAEDA ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Response to Amendment***

This action is being submitted in reply to the amendment received on 01/11/05. The applicants have only overcome the 35 USC 112 rejections. Refer to the abovementioned amendment for additional details on applicant's rebuttal arguments and remarks. Accordingly, the 35 USC 103 rejection is herein maintained for the reasons of record. Therefore, the present claims are finally rejected as seen and described hereinbelow.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 4-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa et al 5250369 in view of Magnusson et al 4232100.

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The instant application is directed to a hydrogen absorbing alloy electrode wherein the disclosed inventive concept comprises the specific polymeric material coated thereon. Other limitations include the specific polymeric materials and the specific weight percent.

With respect to claim 1:

Yuasa et al disclose that a hydrogen absorbing alloy negative electrode for use in storage type battery is prepared through a process in which an alkali-resisting organic high molecule such as polyethylene, fluorocarbon polymer or the like, is added as a binding agent to a pulverized hydrogen absorbing alloy, and the resulting mixture is pressed onto or filled into an electric alloy conductive collector such as punching metal or a foam metal (Col 1, lines 37-45/Col 3, lines 50-67). Other alkali-resisting resins (binding agent) such as carboxymethylcellulose and methylcellulose or poly(vinyl alcohol) can also be employed (Col 14, lines 6-10). *It is noted that the binding agent assists to hold fast or adhere the electrode material to conductive collector.*

**Examiner's note:** *it is noted that applicant has argued now that the transitional phrase "composed of" is to be construed as closed-ended phrase and therefore does exclude other components. To be precise, applicant has contended that the foregoing phrase is meant to be interpreted in the same manner as either "consisting of" or "consisting essentially of". (See amendment of 05/24/05 at page 4, last two paragraphs).*

**Example 1** shows the use of an aqueous solution of poly(vinyl alcohol) (the binding agent) mixed into the hydrogen absorbing alloy powder to form paste; and a foamed nickel porous matrix (the current collector) which is filled with the prepared paste and pressed (EXAMPLE 1/COL 4, lines 1-10). **Example 7** further shows the hydrogen absorbing alloy

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**negative electrode is coated with polyethylene (the coating polymeric material)** (EXAMPLE 7/COL 4, lines 65-68). *Thus, in this case, the hydrogen absorbing alloy electrode consist of the hydrogen absorbing powder and a binding agent composed of a polymeric material (polyvinyl alcohol) adhered to the current collector, and being coated with polyethylene. Hence, the polymeric material in the coating layer is different from the polymeric material in the binding agent.*

With respect to claim 2:

It is disclosed that polyethylene used may be replaced by one of thermoplastic resins such as ABS resin (COL 14, lines 26-30). *It is noted that ABS resin stands for thermoplastic resins made of acrylonitrile-butadiene-styrene copolymer. It is also noted that styrene is an aromatic olefin and butadiene is a conjugated diene.*

With respect to claims 4-5:

It is disclosed that the hydrogen absorbing alloy negative electrode contains the resin by an amount of 1.5 wt % of the electrode (COL 5, lines 60-63).

With respect to claim 9:

It is disclosed that the hydrogen absorbing alloy electrode is for use in an alkaline storage battery (ABSTRACT/ COL 1, lines 11-14).

Yuasa et al disclose a hydrogen absorbing alloy electrode according to the foregoing aspects. However, Yuasa et al does not expressly disclose the specific aqueous polymeric material applied as the coating layer.

Magnusson et al disclose an electrode plate (TITLE) having applied a coating of water insoluble plastic materials on the surface or surfaces of the electrode plate. Examples of suitable

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materials are copolymers of styrene and acrylic acid ester (ABSTRACT/ CLAIMS 1-2) as well as acrylates, vinylacetate and vinylchloride (ABSTRACT). *It is noted that styrene is an aromatic olefin which is aqueous.*

With these specific teachings, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the specific aqueous polymeric material coating layer of Magnusson et al on the electrode of Yuasa et al because Magnusson et al makes known that such specific polymeric layer prevents dust formation from the electrode surface. Thus, it does fix the dust creation on the surfaces of the electrodes during the manufacturing process, thereby to satisfy requirements in regard of factory hygiene and the protection of the inner environment. In this instance, Magnusson et al's motivation to apply the copolymer coating layer may be extensive to the formation of hydrogen absorbing alloy electrodes because they are also subjected to regulated manufacturing processes and environmentally-friendly requirements.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-2, 4-5 and 9 have been fully considered but they are unpersuasive.

5. Applicant's principal line of reasoning for contesting the prior art of record is grounded on the assertion that the "*the Examiner presents no valid teaching or suggestion to combine the cited references*". In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the

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knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). *In this case, while Magnusson et al's motivation describes prevention of lead-dust formation from electrode plates, it should not be construed as specifically or strictly directed to lead-based electrode plate. Accordingly, Magnusson et al's teachings are found to be equally applicable to any electrode using metal plates or metallic materials as does Yuasa et al use. It would be non-sensical to narrow Magnusson et al's teachings of preventing metal dust formation to only one metal per se (i.e. lead). In short, those skilled in the art are instructed by Magnusson et al's teachings to use the coating material for preventing metal-dust formation from the metal plate of the electrode. A different interpretation, as instantly argued by the applicants, would truly deviate or depart from the main spirit and concept of Magnusson et al's intended use of the coating material.*

6. In response to applicant's argument that "*Applicant note that the electrode of Yuasa et al already contains a binder for the powder, and is already covered with an FEP coating. Because of this coating, even if dust from the electrode material were initially a concern, the FEP coating of Yuasa et al would mitigate it*", the fact that applicant has recognized another advantage/disadvantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

7. With respect to applicant's arguments that "*one skilled in the art would not have needed nor been motivated to look to Magnusson et al to solve a problem that does not exist in Yuasa et al*", the examiner points out that even though Yuasa et al does not assert too much criticality to

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metal dust formation, those of ordinary skill in the art would obviously recognize the benefit of further using the specific coating material for preventing metal dust formation, thereby, healthier environmental conditions will result from that recognition.

8. In response to applicant's argument that "*there is no teaching or suggestion...that the coating material of Magnusson et al is desirable or would function with the underlying active material of the present invention*", the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art (*←emphasis supplied*). See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). *To that effect, since there is no teaching or suggestion that the coating material of Magnusson et al is or is not desirable or would or would not function with the present active material, the burden is shifted to the applicant to provide objective evidence showing why Magnusson et al's coating material would cause catastrophic or deleterious damages to the present active material when applied thereto.*

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after



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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond Alejandro  
Primary Examiner  
Art Unit 1745

  
**RAYMOND ALEJANDRO**  
**PRIMARY EXAMINER**